SECTION 4. PROCESSING REFERENCE GUIDE

This section provides an overview of the principle menus used by the System Administrator (SA), Network Administrator, operators, and functional users that utilize the Solaris and Windows platforms to support the units supply support or supply management mission. It also discusses conventions, startup/shutdown procedures, and backup/restore procedures.

4.1 Capabilities. The menu-based approach continues to be employed as it is a secure, reliable way of isolating users from the Solaris command line while permitting them effective access to the overall capabilities of the STAMIS. For purposes of illustration, the Menus Interface can be broken down into two parts - technical and functional. The menus under each category are discussed below.

a. *System Administration*.

(1) The SA and any users who are provided with the root or super-user login-ID and password are able to perform a wide variety of tasks related to management of Solaris from the Common Desktop Environment (CDE). To gain access to the CDE login as **root** with the appropriate root password.

(2) A *Help Viewer* menu is available with titles listed to represent a product family that has installed and registered its online help. Each title (and icon) is a hyper-link that lists the help within the family. To display a list of the help available for a family, choose its title or icon. Within a family, find the help you want to view, then choose its title. If you need help while using help windows, press **<F1>**.

b. *Functional Menus Interface*.

(1) As Solaris represents a transition to a new OS and not a redesign, the menus, options, and processes associated with the functional SARSS-1 or SARSS-2A subsystems have not changed from what is described in the functional AIS Manuals now in the field.

(2) The main menus for SARSS-1 and SARSS-2A are shown in figures 4-1 and 4-2, respectively.

```
DATE:  11/22/98          SARSS1 MASTER MENU     TIME: 10:36:16

         COMMAND                   PROCESS
         +++++++     +++++++++++++++++++++++++++++++
           TRI       <=== TRANSACTIONS-IN MENU
           TRO       <=== TRANSACTIONS-OUT MENU
           REQ       <=== CUSTOMER REQUEST MENU
           STO       <=== STORAGE SUPPORT MENU
           INQ       <=== INQUIRY MENU
           RCV       <=== BACKUP/RECOVERY MENU
           PAR       <=== PARAMETERS MENU
           CLO       <=== CLOSE-OUT
           PRT       <=== PRINT MENU
           MISC      <=== MISCELLANEOUS FUNCTIONS MENU
           MGT       <=== MANAGEMENT FUNCTIONS MENU
           MROC      <=== MROC SUPERVISOR MENU
           SHUTDWN   <=== SHUT DOWN SARSS1 SERVER OR WORKSTATION

      ACTION: <=== ENTER COMMAND TO SELECT YOUR PROCESS SCREEN 0002
      <HOME> = HELP       LOGOUT = QUIT
```

Figure 4-1. SARSS1 Master Menu.

```
DATE:  11/22/98          SARSS2A MASTER MENU     TIME: 10:36:16
         COMMAND                   PROCESS
         +++++++     +++++++++++++++++++++++++++++++
           CLO       <=== CLOSE OUT
           DODM      <=== DODAAC MAINTENANCE MENU
           FIN       <=== FINANCIAL ADJUSTMENT
           INQ       <=== INQUIRY MENU
           MGT       <=== MANAGEMENT SUPPORT MENU
           MISC      <=== MISCELLANOUS FUNCTIONS MENU
           PAR       <=== PARAMETER MAINTENANCE MENU
           PRT       <=== PRINT GENERATION
           QSEL      <=== PRINTER QUEUE SELECTION
           RCV       <=== RECOVERY/BACKUP MENU
           TRI       <=== TRANSACTIONS IN MENU
           TRO       <=== TRANSACTIONS OUT
           STATS     <=== UNPROCESSED TRANSACTIONS STATISTICS

      ACTION: <=== ENTER COMMAND TO SELECT YOUR PROCESS SCREEN 0002
      <HOME> = HELP       LOGOUT = QUIT
```

Figure 4-2. SARSS2A Master Menu.

(3) Refer to the functional SARSS-1 and SARSS-2A manuals for complete details related to the options shown on each of the master menus.

4.2 Conventions. This paragraph describes the menu conventions and selection procedures used. The types of conventions discussed in the following subparagraphs are:

a. Key assignments.

b. Common Desktop Environment (CDE).

c. Functional menu selection procedures.

4.2.1 Key Assignments. Progression to Solaris did not change the keyboard layouts. Figure 4-3 contains a listing of the key assignment functions.

KEY FUNCTION	KEY ASSIGNMENT
Executes Command	<Esc>
Print Screen	<F12>
Help	<Home>
Display Next Screen	<Page Down>
Display Previous Screen	<Page Up>
Exit Process	<End>

Figure 4-3. Solaris Key Assignments.

4.2.2 Common Desktop Environment (CDE). To gain access to the CDE login as root with the appropriate root password. Once logged in to the CDE selecting a window makes it active for input and raises it to the top of the window stack. With the mouse, point to the window's frame and click the left mouse button. With your keyboard, press **<Alt>+<Tab>** to select the next window in the stack. Repeat until the window you want is selected.

(1) To help you organize and manage your work, the desktop provides windows, workspaces, controls, menus, and the Front Panel. Windows contain software applications and are framed with controls so you can move them, size them, or place them in additional workspaces. Workspaces are the screen areas where you place the windows needed for your work, arrange them, and put them away when you're done. Controls enable you to manipulate objects, select choices, or type information. Menus provide access to commands you use to manage windows and operate applications. The Front Panel is a collection of frequently used controls, available in every workspace. For a detailed explanation of each control, see Section 7. Solaris System Administration.

(2) Use the Style Manager to easily customize many elements of the desktop including colors, workspace backdrops, font sizes, and keyboard, mouse, and window behavior. To start Style Manager, click its Front Panel control.

(3) The File Manager displays the files, folders, and programs on your system as icons. Working with File Manager icons saves you from having to learn complex commands. To open a File Manager view of your home folder, click the File Manager control in the Front Panel.

(4) The Application Manager provides easy access to the CDE and Open Windows applications and actions you use in your everyday work. You can place the applications and actions you use frequently on the workspace backdrop. To open Applications Manager, click its Front Panel control.

4.2.3 Functional Menu Selection Procedures. The functional manuals provide comprehensive information on selecting options listed on the SARSS master menus, subordinate menus, or processing screens. A brief overview is provided below. Figure 4-4 contains a summary of the menu conventions that apply to the functional subsystem master menus, subordinate menus and processing screens. **NOTE:** The bold callout numbers in the figure correspond to the paragraphs below.

```
DATE:  11/22/98          SARSS1 MASTER MENU     TIME: 10:36:16←c
      b→ COMMAND                  PROCESS
         +++++++     ++++++++++++++++++++++++++++++++
           TRI       <=== TRANSACTIONS-IN MENU
           TRO       <=== TRANSACTIONS-OUT MENU
           REQ       <=== CUSTOMER REQUEST MENU
           STO       <=== STORAGE SUPPORT MENU
           INQ       <=== INQUIRY MENU
           RCV       <=== BACKUP/RECOVERY MENU
           PAR       <=== PARAMETERS MENU
           CLO       <=== CLOSE-OUT
           PRT       <=== PRINT MENU
           MISC      <=== MISCELLANEOUS FUNCTIONS MENU
           MGT       <=== MANAGEMENT FUNCTIONS MENU
           MROC      <=== MROC SUPERVISOR MENU
           SHUTDWN   <=== SHUT DOWN SARSS1 SERVER OR WORKSTATION

   a->ACTION: <=== ENTER COMMAND TO SELECT YOUR PROCESS SCREEN 0002
      <HOME> = HELP       LOGOUT = QUIT
```

Figure 4-4. SARSS1 Master Menu.

a. One principle feature of the menus in the functional subsystem is the bottom line of the display. As shown in figure 4-4, this line contains the action line where you key in the mnemonic action line command that is associated with the required menu selection. The bottom line also contains the screen number that uniquely identifies this menu or screen within the STAMIS configuration management system and a short list of standard action line commands that apply to all menus, by convention. The only standard action line command that applies in this case is **LOGOUT**. In SARSS, the action line command is not limited to the displayed commands alone. Experienced users who know what command they want to execute can enter the action line command mnemonic on any menu whether or not the displayed menu lists the required command or not.

b. Moving up from the bottom status line, the next conventional feature of the functional menus is the list of options available from this menu. These commands are grouped into menus based on the logical associations between the options. For example, all inquiries are grouped together on one menu; customer request processing functions are grouped together on another menu; Parameter-related commands on a third and so on. Again, this is a convention designed to assist new users but it does not impede experienced users who can enter the required command on any menu whether the option requested is displayed or not.

c. At the top of the menu, from left to right, is the current system date, the menu title, and the current system time.

4.3 Processing Procedures. Consult the following references for detailed step-by-step processing procedures on each subsystem:

a. For SARSS-1 functional processes, consult *ADSM 18-L1Y-AJT-ZZZ-EM*.

b. For SARSS-2A functional processes, consult *ADSM 18-L14-AJQ-ZZZ-EM*.

c. For Solaris-related commands and processing procedures, refer to the *Solaris Manuals* and any vendor-provided manuals contained in the transit cases.

4.4 Related Processing. NA.

4.5 Data Backup. This paragraph discusses the Solaris commands used to perform backup and restore functions. There are three Solaris commands used to back up files. These are `tar`, `cpio`, and `dd`. As you can see from the options and examples shown for each command, these three commands offer a wide range of flexibility in backing up and

restoring data. Because there is no way to foretell the unique preferences of each site's SA and users only basic commands, command options, and examples are provided below.

a. **tar** - Create tape archives and add or extract files.

(1) *Description.* The tar command archives and extracts files to and from a single file called a tar file. A tar file is usually a tape, but it can be any file. tar's actions are controlled by the key argument. The key is a string of characters containing exactly one function letter (c, r, t, u, or x) and zero or more function modifiers (letters or digits), depending on the function letter used. The key string contains no SPACE characters. Function modifier arguments are listed on the command line in the same order as their corresponding function modifiers appear in the key string. The function portion of the key is specified by one of the following letters:

c Create. Writing begins at the beginning of the tar file, instead of at the end.
r Replace. The named files are written at the end of the tar file.
t Table of Contents. The names of the specified files are listed each time they occur in the tar file.
u Update. The named files are written at the end of the tar file if they are not already in the tar file, or if they have been modified since last written to that tar file.
x Extract or restore. The named files are extracted from the tar file and written to the directory specified in the tar file, relative to the current directory.

(2) *Format.* # **tar** [-options] [file...]

(3) *Example.*

tar cvf /dev/rmt0 .
Creates an archive of your home directory on a tape mounted on drive rmt0 .
tar tvf /dev/rmt0
Displays the table of contents of the tar file.

(4) *Options.*

-I include-file Open the include-file containing a list of files, one per line, and treat as if each file appeared separately on the command line.

-C directory file Perform a chdir operation on directory and perform the create or replace operation on the file. Use short relative path names for the file. If the

file is '.', archive all files in the directory. This option enables archiving files from multiple directories not related by a close common parent.

b. **cpio** - Copy file archives in and out.

(1) *Description*. The cpio command copies files in to and out from a cpio archive. The cpio archive may span multiple volumes.

(2) *Format*. **cpio** [-options] [pattern...]

(3) *Examples*.

find . -name * -print | cpio -ovcBmud > /dev/rmt0
Find all files in the current directory and copy them out to the tape.
cpio -ivcBmud < /dev/rmt0
Copy the contents of the tape as input to the system.

(4) *Options*.

-i Copy in. Extract files from the standard input.
-o Copy out. Read standard input to obtain a list of path names and copy those files onto standard output.
-p Pass. Read standard input to obtain a list of path names of files.
-a Reset access time of input files after they are copied.
-A Append files to an archive.
-b Reverse the order of the bytes within each word.
-B Block input/output 5120 bytes to the record.
-c Read or write header information in ASCII character form for portability.
-C buffer-size Block input/output buffer size bytes to the record, where the buffer size is replaced by a positive integer.
-d Create directories as needed.
-E file Specify an input file that contains a list of file names to be extracted from the archive.
-f Copy in all files except those in patterns.
-H header Read or write header information in header format.
-I file Read the contents of the file as an input archive.
-k Attempt to skip corrupted file headers and I/O errors that may be encountered.
-l Whenever possible, link files rather than copying them.
-L Follow symbolic links.

-m Retain previous file modification time.
-M message Define a message to use when switching media.
-O file Direct the output of cpio to the file.
-r Interactively rename files.
-t Print a table of contents of the input.
-u Copy unconditionally. Normally, an older file will not replace a newer file with the same file name.
-v Verbose. Print a list of file names.

c. **dd** - Convert and copy a file.

(1) *Description*. dd copies the specified input file to the specified output with possible conversions. The standard input and output are used by default. The input and output block sizes may be specified to take advantage of raw physical I/O. dd reads the input one block at a time, using the specified input block size; it then processes the block of data actually returned, which could be smaller than the requested block size. dd will apply any conversions that have been specified and write the resulting data to the output in blocks of the specified output block size. After completion, dd reports the number of whole and partial input and output blocks. Do not use dd to copy files between file systems having different block sizes.

(2) *Format*. **dd** [-options]

(3) *Examples:*

dd of=/dev/rmt0 **if=**hosts
Copy to tape from the hosts file.
dd if=/dev/rmt0 **of=**hosts **cbs=**80
Copy from tape to hosts with a conversion buffer size of 80.
dd if=/dev/rmt0 **of=**hosts **ibs=**8700 **cbs=**725
Copy from tape to hosts with the block size of input files of 8700 and the conversion buffer size of 725.
dd if=/dev/rmt0 **of=**filename **cbs=**80 **conv=**ascii,ucase
Copy from tape to hosts with a conversion buffer size of 80 and convert from EBCDIC to ASCII in uppercase.

(4) *Options*.

if Specifies the input path; standard input is the default.

of Specifies the output path; standard output is the default.

bs Specifies the block size of both input and output.

ibs Specifies the block size of input files only.

obs Specifies the block size of output files only.

cbs Specifies the conversion buffer size.

conv Specifies the type of conversion to take place. ASCII converts a file from EBCDIC format to ASCII format; EBCDIC converts a file from ASCII format to EBCDIC format.

lcase Map upper-case characters to the corresponding lower-case character.

ucase Map lower-case characters to the corresponding upper-case character.

4.6 Recovery from Errors and Malfunctions. Follow the guidance provided in the vendor-supplied documentation.

4.7 Error Messages. See appendix C.

4.8 File Server Startup and Shutdown Procedures. When the File Server is powered up, there is a sequence of procedures that must be performed in order to provide a multi-user/multitasking environment. In addition, to preserve the integrity of the File Server's data storage, an orderly system shutdown must occur to prevent data loss or corruption.

a. *Startup*. The startup procedure takes the File Server from a "rest" state (no power) to one of its operating states in a sequenced, orderly manner.

b. *Shutdown*. The system shutdown must also be performed in an orderly manner. **CAUTION:** Never simply turn the power off on the File Server; if you do, you will compromise data integrity.

c. *Process Types*. There are four process types as described below:

(1) *Initialization*. This mode occurs when the File Server is loading (booting) the operating system from disk into memory. During this mode, diagnostic routines check the hardware components and verify file system integrity.

(2) *Single User*. This mode is one where the system is in an inactive state and only the console terminal is active. This state is used primarily for performing administrative and maintenance tasks. This mode is also referred to as the administrator's or super user's mode.

(3) *Multi-user*. The normal production mode for a Solaris system is multi-user mode. In this mode, all users can access the File Server and its services.

(4) *Shutdown*. Shutdown, like the initialization mode, is a transitory mode. The File Server goes into the shutdown mode when the shutdown process is activated.

4.8.1 Startup.

a. Figure 4-5 outlines the sequence of events that occur during startup.

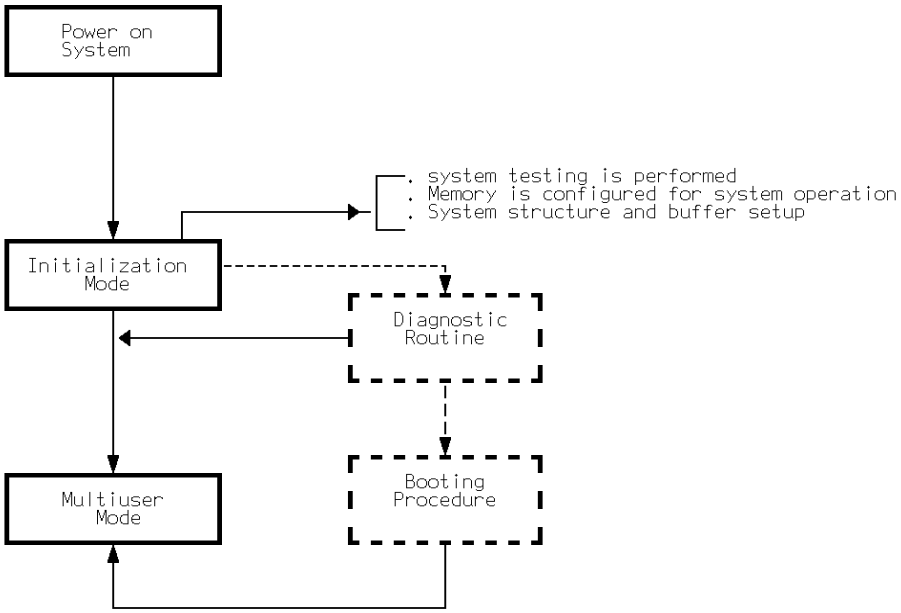

Figure 4-5. Startup Sequence.

b. During startup, the File Server:

(1) Runs internal diagnostic programs to check your hardware.

(2) Displays memory and copyright information.

(3) Determines if the File Server was shut down properly.

(4) Checks the file system for inconsistencies and attempts to make any necessary repairs.

(5) This is followed by the STAMIS login-ID prompt.

(6) At the `login-ID`: prompt, key in ajt01 for SARSS-1, ajq01 for SARSS-2A or root and the associated password.

(7) Once the login-ID and password are verified and accepted, the file systems are mounted required by the STAMIS or provides you (as root user) the Solaris CDE.

4.8.2 Shutdown.

a. The Shutdown command performs an orderly termination of all processes in preparation of turning off or rebooting the file server. All user processes and system daemons are terminated and file systems are updated and unmounted. See figure 4-6.

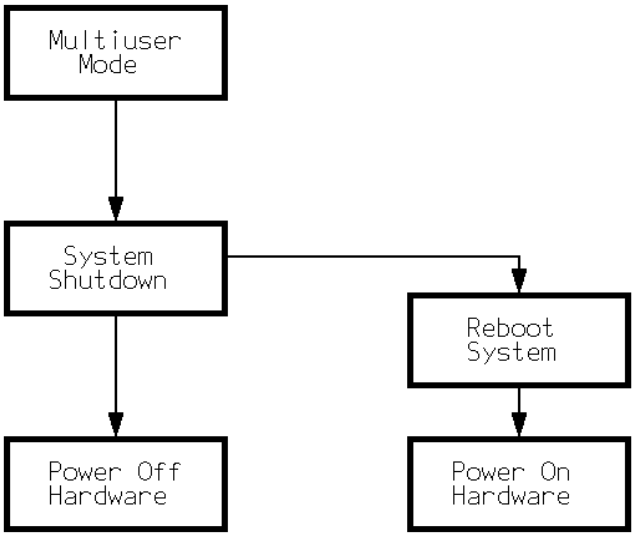

Figure 4-6. Shutdown Sequence.

(1) In the SARSS-1 system, shutdown the file server by entering "**SHUTDWN**" on the Action line, while logged in to SARSS-1.

(2) In SARSS-2A, enter "**shutdown**" from the Solaris login screen. If currently logged into the SARSS-2A system, right click in the black area at the bottom of the screen, click on 'Log Out' and 'OK' to return to the Solaris login screen.

b. *Shutting Down and Powering down the File Server*. When you are ready to turn off your file server, you must arrange to have the computer complete all of the tasks that are currently running. This is accomplished with a system maintenance procedure called Shutdown. The shutdown program terminates all tasks that are currently executing before it halts the system.

WARNING: If you do not run the shutdown program, you may lose stored data and cause damage to the file system.

c. *Turn the Power Off on All Equipment*. It is recommended that all equipment be powered down at the main surge suppresser or power strip by turning the power switch off. If a surge suppresser or power strip is not being used, each device must be turned off individually, as outlined below.

(1) Turn the modem power switch to the "Off" position.

(2) Turn the printer power switch to the "Off" position.

(3) Turn the monitor power switch to the "Off" position.

(4) Turn the power switch to the "Off" position for any external devices, such as the MROCS network controller.

(5) Turn the file server power switch to the "Off" position.

4.9 Workstation Startup and Shutdown Procedures. As with the file server, when the workstation is powered up, there is a sequence of procedures that must be performed. In addition, an orderly system shutdown must occur to prevent data loss or corruption.

a. *Powering up the Workstation.* When the workstation boots up Windows NT is loading programs and files into memory. Follow a specific set of steps to power up the workstation.

(1) Turn on the monitor, printer and any other devices attached to the workstation. Then, turn on the workstation.

(2) When prompted, type the password assigned to the workstation and press <Enter> to begin the Windows NT load.

(3) A "Begin Logon" box will prompt you to "Press Ctrl + Alt + Delete to log on". At this time press <CTRL + Alt + Delete> and release all three keys at the same time.

(4) A "Login Information" box will prompt you to "Enter a user name and password that is valid for this system". Make sure the user name is correct and enter a valid Password. If the "OK" button is highlighted press the <Enter> key, otherwise use the mouse or track ball to click on "OK".

b. *The Windows NT Desktop.* Applications are displayed on the Desktop.

(1) Work is completed in rectangular areas of the screen called windows. Applications, such as SARSS or ajt0X, are represented on the Desktop by small graphical symbols called icons.

(2) To carry out an action in Windows, choose an item. For example, using a mouse or track ball to double click on the SARSS icon starts that application.

c. *Parts of a Window.*

(1) Most windows have certain elements in common, such as a title bar and a menu bar. Not all windows, however, have every element.

(2) The *Control-menu* box is in the upper-left corner of each window. It is useful if you use your keyboard, rather than a mouse, to move, size, or close a window.

(3) The *Title bar* shows the name of the application, document group, directory, or file. If more than one window is open, the color or intensity of the title bar for the active window (the one in which you are working) is different from other title bars.

(4) The *menu bar* contains the available menus from which to choose commands.

(5) The *Minimize button* reduces the window to a button on the taskbar.

(6) The *Maximize button* enlarges the active window so that it fills the entire desktop.

(7) The *Restore button* replaces the *Maximize button* after a window is enlarged. Click the Restore button to return the window to its previous size.

(8) The *window border* is the outside edge of the window. Change the size of the window by lengthening or shortening the border on each side of a window.

(9) The *insertion point* shows where work is being done in a document. It marks the place where text and graphics appear when typing or drawing is started. The shape of the insertion point may vary among applications and even within a document.

(10) The *mouse pointer* appears if a mouse or track ball is installed. When the mouse or track ball is moved, the position of the pointer changes on the screen. The shape of the pointer may vary among applications and even among documents within the same application.

(11) Use the *scroll bars* to move through a document or list when the entire document or list does not fit in the window or the allotted space.

d. *Additional Application.*

(1) An additional application appears on the Taskbar at the bottom of the Desktop screen. The application is for Remote Print Manager (RPM). RPM enables the printing of SARSS requirements at the workstation.

(2) The RPM application must be running for SARSS print functions to work properly. When a print job is created on a workstation a spooler session is initiated. Spooler sends the print job to RPM on the workstation. RPM passes it to the Windows NT print manager. Once the print job is transferred to RPM there is no record of it in spool on the file server. Go to RPM or the Windows NT print manager to find out the status of the print job, to pause the printer, and to cancel the print job.

e. *Starting a SARSS Session*.

(1) From the Desktop double click on the SARSS icon to get the SARSS application window.

(2) Click on the "Connect" button (represented by a picture of a telephone) to get a SARSS login screen. A Status Bar at the lower portion of the screen provides information on the workstation's session with the file server.

(a) A green ball indicates that a session between the workstation and the file server is active.

(b) A red ball indicates that the session is closed. The session between the workstation and file server is not active.

(c) ANSI indicates the terminal emulation type.

(d) The type of connection is represented by TCP/IP.

(e) The current or elapsed time indicates the current time on the workstation.

(3) When prompted, type the name of the workstation (ajt02, ajq02, etc) and press <Enter>.

(4) Once the name is validated an Alert Screen is displayed for SARSS-1. The Alert Screen provides reminders for working in SARSS-1. The Alert Screen does not appear for SARSS-2A.

(5) After reading the Alert Screen, press <Enter> to display the SARSS-1 Login Screen. The SARSS-2A login screen is automatically displayed.

(6) Type your User ID and Password on the SARSS Login Screen. Once the user ID and password are validated the SARSS Master Menu is displayed.

f. *Stopping and Suspending Work on the Workstation.*

(1) During the workday there are times when SARSS is not required to be active. Before leaving a workstation unattended, log out of SARSS by typing LOGOUT on the action line of any menu.

(2) When work is completed on a workstation type LOGOUT at any SARSS menu.

(3) Exit from the NetTerm session by clicking on the "Disconnect" button (represented by picture of an unconnected cable).

(4) Click on "START" on the Taskbar of the Windows NT Desktop. Then click on "Shutdown". A Shutdown box is displayed.

(5) Make sure "Shutdown the computer" is selected and click on "Yes" if you wish to shutdown the workstation.

(6) A "Shutdown Computer" box is displayed with a message "It is safe to turn off your computer" displayed along with a "Restart" button. Turn off the power on the computer and all attachments connected to the computer if you wish to shutdown the workstation. If not, click on the "Restart" button.